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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,279	02/06/2004	Mincki Taoka	65933-069	4965

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600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

KOVALICK, VINCENT E

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/772,279

Applicant(s)

TAOKA ET AL.

Examiner

Vincent E. Kovalick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-16, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-4, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/2/04 & 11/15/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to Applicant's Patent Application, Serial No. 10/772,279, with a File Date of February 6, 2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihara et al. (USP 6,115,016) taken with Ikeda (Pub. No. US 2001/0052886).

Relative to claims 1, 3 and 17, Yoshihara et al. **teaches** a Liquid Crystal Display (LCD) apparatus and display control method therefor (col. 1, lines 14-67 and col. 2, lines 1-42);

Yoshihara et al. further **teaches** a hold-type display apparatus (LCD) including: a pixel array; a data write circuit which writes data to said pixel array in a row direction and performs effective writing in a concentrated manner in a partial period during a frame period when a desired pixel value is written to a pixel (col. 8, lines 54-69 and Fig. 5); and a scanning line drive circuit which scans said pixel array in a column direction (col. 8, lines 34-37 and Fig. 5).

Yoshihara et al. **does not teach** said Liquid Crystal Display that has means for setting a write value in the partial period higher than the desired pixel value so that the desired pixel value is realized, in terms of visibility, by the writing in the partial period.

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Ikeda **teaches** a Liquid Crystal Display apparatus and driving method (pgs. 2/3, paras. 0012-0017); Ikeda further **teaches** a Liquid Crystal Display that has means for setting a write value in the partial period higher than the desired pixel value so that the desired pixel value is realized, in terms of visibility, by the writing in the partial period (pg. 5, para. 0016).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Yoshihara et al. the feature as taught by Ikeda in order to put in place the means to load and augment to pixel value in order to obtain the desired luminescence level.; further it being understood by a person of ordinary skill in the art at the time of the invention that a data write circuit writes data to the pixel array in a row direction and that a scanning line drive circuit scans the pixel array in a column direction.

4. Claims 2, 4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihara et al. taken with Ikeda applied to claims 1, 3 and 17 respectively in item 3 hereinabove, and further in view of Lewis (USP 6,040,812).

Regarding claims 2, 4 and 18, Yoshihara et al. taken with Ikeda **does not teach** a hold-type display apparatus with means for writing data in a manner such that a predetermined relationship is given between an integral value of a write value written in the partial period and an integral value of the desired pixel value in the frame period.

Lewis **teaches** an active matrix display with integrated drive circuitry (col. 1, lines 54-67 and col. 2, lines 1-35); Lewis further **teaches** a hold-type display apparatus with means for writing data in a manner such that a predetermined relationship is given between an integral value of a write value written in the partial period and an integral value of the desired pixel value in the frame period (col. 16, lines 56-67).

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It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Yoshihara et al. taken with Ikeda the feature as taught by Lewis in order to put in place the means to facilitate controlling the writing of pixel data and the related timing associated with writing in the partial period and the frame period.

Allowable Subject Matter

5. Claims 5-16 and 19-20 are allowed.

6. The following is an examiner's statement of reasons for allowance:

Relative to claims 5, 7, 19 and 20, the major differenced between the teachings of the prior art of record (Yoshihara et al., (USP 6,115,016); Lewis, USP 6,040,812 and Ikeda, (Pub. No. US 2001/0052886)) and that of the instant invention is that said prior art of record **does not teach** a hold-type display including a data write circuit, for writing data to a pixel array in a row direction, which includes means for writing in an i th period ($2 \leq i < n$) n times a desired pixel value to be written to a pixel and writing 0 (zero) in periods other than the i th period where a frame period is divide into n parts and each divided period is denoted by first to n th period (n being an integer greater than or equal to 2).

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	6,545,656	Yamazaki
U. S. Patent No.	6,452,589	McKnight
Pub. No.	US 2003/0011738	Yoshihara et al.
Pub. No.	US 2002/0000960	Yoshihara et al.

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To Respond

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E. Kovalick whose telephone number is 571-272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Vincent E. Kovalick
February 1, 2007



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